

1. A valve assembly for use with a prosthetic limb having a prosthetic limb socket, the valve assembly comprising:

5 a base having a proximate surface, including a chamber therewithin and at least one channel extending through said proximate surface, said channel providing fluid communication between said chamber and the interior of the socket;

10 a duct extending through the socket, engaged with said base and in fluid communication with said chamber; and

a valve coupled to said duct for controlling the flow of air therethrough.

15 2. The valve assembly of claim 1, wherein said based is fitted within a distal end of the socket, and said valve assembly further comprises an air-tight seal between said base and the socket.

3. The valve assembly of claim 2, further comprising:

20 a cushion member fitted within the distal end of the socket and engaged with said base, having a proximate end and a distal end, said proximate end being adapted to abut a wearer's residual limb.

4. The valve assembly of claim 3, wherein:

25 said cushion member includes a cavity which opens on said distal end of said cushion member and a projection extending inwardly around a mouth of said cavity, said base being retained in said cushion member cavity by said projection;

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said cushion member further includes at least one channel extending therethrough, providing fluid communication between said cushion member cavity and the interior of the socket;

5 said projection includes a passage through which said duct extends; and

 said projection further includes said seal.

10 5. The valve assembly of claim 4, wherein said cushion member includes a shoulder preventing said base from abutting said distal end of said cushion member such that said base is retained in said cushion member cavity to form intermediate chamber therebetween.

15 6. The valve assembly of claim 5, wherein said cushion member includes a substantially concave proximate surface, and a flexible feathered periphery extending radially outward from said proximate surface.

7. The valve assembly of claim 1, wherein said base includes means for releasably attaching said valve assembly within the socket.

20 8. The valve assembly of claim 7, wherein said base includes means for releasably attaching a prosthetic limb upright assembly to the distal end of the socket.

9. The valve assembly of claim 8, further comprising:

25 a cushion member fitted within the distal end of the socket and engaged with said base, having a proximate end and a distal end;

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5 said cushion member includes a cavity which opens on said distal end of said cushion member and a projection extending inwardly around a mouth of said cavity, said base being retained in said cushion member cavity by said projection;

 said cushion member further includes at least one channel extending therethrough, providing fluid communication between said cushion member cavity and the interior of the socket;

10 said projection includes a passage through which said duct extends; and

 said projection further includes said seal.

10. The valve assembly of claim 9, wherein said projection further includes a second air-tight seal between
15 said passage and the socket.

11. The valve assembly of claim 1, wherein said base is substantially cylindrical and is fitted within a distal end of the socket.

12. The valve assembly of claim 1, wherein said
20 valve includes an open/close port, said open/close port allowing transfer of air through said valve when said open/close port is open.

13. The valve assembly of claim 12, wherein said
25 valve includes a quick-disconnect port, said quick-disconnect port facilitates the coupling of a pump to said valve for forcing transfer of air through said valve.

14. The valve assembly of claim 1, wherein said valve includes a quick-disconnect port, said quick-

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disconnect port facilitates the coupling of a pump to said valve for forcing transfer of air through said valve.

15. A prosthetic limb, comprising:
a socket for receiving a wearer's residual
5 limb, said socket having an interior, a distal end, and an inner surface;
an upright assembly;
a baseplate having a proximate surface,
10 positioned within said socket distal end, said baseplate including a chamber therewithin and at least one channel extending through said proximate surface, said channel providing fluid communication between said chamber and said socket interior;
15 means for securing said baseplate in said socket;
means for coupling said upright assembly to said socket;
a duct extending through said socket, engaged with said baseplate and in fluid communication with said
20 chamber;
a valve coupled to said duct; and
an air-tight seal between said baseplate and said socket.

16. The prosthetic limb of claim 15, further
25 comprising:
an interface cushion engaged with said baseplate and adapted to abut said wearer's residual limb, said interface cushion having a proximate end, a distal end and at least one channel extending therethrough providing
30 fluid communication between said chamber and said socket interior.

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17. The valve assembly of claim 15, wherein said valve includes a quick-disconnect port, said quick-disconnect port facilitates the coupling of a pump to said valve for forcing transfer of air through said valve.

5 18. The valve assembly of claim 15, wherein said valve includes an open/close port, said open/close port allowing transfer of air through said valve when said open/close port is open.

10 19. A method for providing forced transfer of gas to and from a prosthetic limb socket, comprising the steps of:

15 coupling a pump to a valve, said valve being coupled to a base fitted within a distal end of the socket, said base including a proximate surface, a chamber therewithin and at least one channel extending through said proximate surface, said channel providing fluid communication between said chamber and the interior of the socket, and said valve being in fluid communication with said chamber; and

20 activating said pump to force the transfer the gases to or from said valve;

whereby said forced transfer of the gases to or from said valve operates to force the transfer of the gases to or from the socket.

Add A₂

add
B2

add
C1

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D2